

PATENT SPECIFICATION

NO DRAWINGS

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COMPLETE SPECIFICATION

Cosmetic Preparations and a Process for the Manufacture thereof

I, OTTO HEIGL, a German National, of Moosham near Regensburg, Germany do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to cosmetic preparations incorporating a product obtained from cereals, and to the manufacture thereof. The term "cereal" in this context denotes the several kinds of gramineae known as cultivated crops for humans or animal nutrition, more particularly rye, wheat, barley, oats, millet, maize and rice, including their known varieties and strains.

The invention is based on the discovery that valuable cosmetic preparations can be prepared with the use of the milky fluid evolved by cereals at the milk-ripe stage. This milky fluid, hereinafter called "cereal milk", is, in accordance with the invention, obtained from cereal grains which are at the milk-ripe stage, which may be defined as the condition of the grains when the exterior of the grains is still at least partly green, and the interior consists of, or yields, a milky white liquid, usually with some solid constituents. The milk-ripe stage is the stage of cereal grain growth which follows the end of blossoming and precedes what, in at least the majority of cereals, is known as the yellow ripeness stage of the solid dry and, as a rule, substantially yellow ears. When in the milk-ripe stage the various grains which form the fruit system are soft and green and contain a milk liquid, i.e. the cereal milk referred to above. Grain having differing contents of vitamins and cellular fluids can be obtained at different times during the milk-ripe stage.

From one aspect the present invention consists in a cosmetic preparation containing as

an essential ingredient thereof a proportion of a product referred to as cereal milk, or an extract or derivative thereof, together with adjuvants.

The cereal milk may be used in the unfermented or fermented state, as a liquid, or in the dry state, in the manufacture of cosmetic preparations such as cosmetic creams, face and skin lotions, salves, hair-treatment liquids, and bath additives. At least some of these cosmetic preparations containing the cereal milk have *inter alia* the feature that they are absorbed very readily by the skin.

The invention also consists in a method of obtaining a product for use as, or as an ingredient in the manufacture of a cosmetic preparation which comprises harvesting cereal grains at the milk-ripe stage, reducing the milk-ripe grains to a paste or pulp, and separating at least part of the solid ingredients, and optionally chlorophyll, from the paste or pulp, for example by centrifuging, expressing, extracting and/or filtering, optionally with the addition of adjuvants, to leave a liquid milky product, referred to as cereal milk. The resulting milky liquid may be used in liquid form or may be concentrated or dried if desired.

Grass-mowing equipment may be used to harvest the cereal crop when at the milk-ripe stage, or, for instance, appropriately converted combine harvesters or other known kind of harvester can be used. In a preferred method of performing the invention the crop is then processed into a paste or pulp, for instance, by being ground or reduced to a consistency of a puree, possibly with the addition of small quantities of water, whereafter solid residues and, if required, chlorophyll may be removed from the paste or pulp by expressing, centrifuging, extracting and/or filtering, leaving a milky fluid which comprises the cereal milk. One method which has proved very satis-

[Price 4s. 6d.]



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factory is expressing at high pressure with the use of appropriate filter cloths, followed by centrifuging in an appropriate centrifuge or some similar appropriate and preferably high-speed whirling device; the solids are removed by expressing and the chlorophyll is removed by centrifuging. Alternatively, the chlorophyll can be removed by extraction, for instance, with a light-fraction petroleum spirit. Depending upon the particular type of cosmetic preparation for which the cereal milk is intended, it may be preferred in some cases to omit all or some of the stage of separation of chlorophyll and solid ingredients, the pulp or paste being directly incorporated as an ingredient in a cosmetic preparation. Where separation is adopted this leads to a product which has a milky consistency. This can be directly fermented with yeast, possibly with the addition of water, to give an alcoholic product, or else which can be reacted with lactic acid bacteria to give a lactic-acid-containing product. Other additives, such as preservative chemicals e.g. alcohol or benzoic acid, or salts thereof can be added to the milk, or else it can be pasteurised, to preserve the milk during or after its preparation, and the milk can be subjected to further processing in this form. The separated solid residues may be of use as forage for cattle.

It has been found, surprisingly, that the liquid cereal milk obtained in this way from cereal grains at the milk-ripe stage can be sedimented, when in a fermented or unfermented state, while stored in a tank, whereafter the liquid layers thus formed can be removed separately. This enables most of the chlorophyll, which is usually deposited at the top layer, to be removed from the milk therein. The sedimented layers thus obtained can be further processed, for example the sedimented layers after removal may be concentrated individually before or after preservative treatment, for instance, by known concentration techniques or centrifuging, or else they may be pasteurised or converted to the solid state, for instance, by hot drying or freeze drying or vacuum drying or spray drying, the final product then being used as an ingredient in the manufacture of cosmetics.

It has been found that the unsedimented cereal milk, or the layers separated after sedimentation, can—possibly after concentration—be stabilised in the unfermented state, for direct use before or after preservation, by an addition of oil. Shaking the milk with oil gives an emulsion which is very suitable for direct use in the manufacture of cosmetics.

It will be appreciated that the actual method by which the cereal milk or an extract or derivative thereof is incorporated into the final cosmetic preparation will depend upon the

nature of the preparation, but such methods are well known in themselves.

WHAT I CLAIM IS:—

1. A method of obtaining a product for use as, or as an ingredient in the manufacture of, a cosmetic preparation, which comprises harvesting cereal grains at the milk-ripe stage, reducing the milk-ripe grains to a paste or pulp, and separating at least part of the solid ingredients, and optionally chlorophyll, from the paste or pulp, for example by centrifuging, expressing, extracting and/or filtering, optionally with the addition of adjuvants, to leave a liquid milky product, referred to as cereal milk.
2. A method as claimed in Claim 1 in which the liquid cereal milk is concentrated, pasteurised, or dried.
3. A method as claimed in Claim 1 in which the liquid cereal milk is fermented with yeast to form an alcoholic product, or is reacted with lactic acid bacteria to form a lactic acid containing product.
4. A method as claimed in Claim 1 or Claim 3 in which the liquid cereal milk after separation of the solid ingredients is sedimented, in either the fermented or the unfermented state, and one or more of the liquid sedimentation layers are removed individually.
5. A method as claimed in Claim 4 in which one or more of the liquid sedimentation layers are concentrated, pasteurised or dried after removal.
6. A method as claimed in any one of Claims 1 to 5 in which the liquid cereal milk, or one or more of the individually-removed liquid sedimentation layers, is emulsified with oil.
7. A cosmetic preparation incorporating as an essential ingredient therein a product obtained by the method claimed in any one of Claims 1 to 6.
8. A cosmetic preparation containing as an essential ingredient thereof a proportion of a product referred to as cereal milk, or an extract or derivative thereof, together with adjuvants.
9. A cosmetic preparation as claimed in Claim 8, in which the product comprises an alcoholic fermentation product of cereal milk, or a lactic acid containing product formed by reaction of cereal milk with lactic acid bacteria.
10. A cosmetic preparation as claimed in Claim 8 or Claim 9, in which the cereal milk product is in the form of an emulsion with oil.

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